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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,856	04/14/2004	Patrick Dooling Bossman	SVL920030141US1	6869

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EXAMINER
LE, THU NGUYET T

ART UNIT	PAPER NUMBER
2169	

DATE MAILED: 10/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/824,856	BOSSMAN ET AL.
	Examiner	Art Unit	
	Thu-Nguyet Le	2169	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2004*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04/14/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-SB/08)
    Paper No(s)/Mail Date *04/14/2004*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   This action is responsive to communications through the applicant's application filed on 04/14/2004. Claims 1-20 are pending and present for examination.

Information Disclosure Statement

2.   IDS's submitted on 04/14/2004 and 10/29/2004 have been considered by examiner. A signed and initialed copy is attached hereto.

Specification

3.   The disclosure is objected to because of the following informalities:

Paragraph [00037], lines 10, 16, related application numbers are blanks. The examiner suggests filling of the related applications.

Paragraph [00042] lines 1-2, "all queries in the workload have been processed, in step 130, at least one statistics collection task is generated" should be changed to "all queries in the workload have been processed, in step *132*, at least one statistics collection task is generated".

Appropriate correction is required.

Claim Objections

4.   Claims 15-16 are objected to because of the following informalities:

Claim 15 recites the limitation "the table score is also based on, at least in part, the table score is also based on, at least in part, a cost of the queries referencing the table" which is the same as claim 7 limitation.

Claim 16 recites the limitation " the query statistics comprise column information,

and when a column specified in the column information is part of an index, generating

an index portion of the statistics collection task to request database statistics for that

column" which is the same as claim 8 limitation.

Therefore, claims 15 and 16 are duplicated claims. Appropriate correction is

required.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

6.   Claims 15-16 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claim 15 recites the limitation "The article of manufacture of claim 6" in line 1.

There is insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation "The article of manufacture of claim 1" in line 1.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
> use or on sale in this country, more than one year prior to the date of application for patent in the United
> States.

8.   Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Osborn

et al. (US 6,249,791).

With respect to claim 1, Osborn discloses a method of collecting statistics in a

database management system, comprising:

receiving a workload comprising a plurality of database queries (column 12, lines

41-42, "a plurality of queries submitted to a database system");

identifying ("generating") query statistics for the database queries (column 12,

lines 40-41, "generating a plurality of statistics for each of a plurality of queries");

consolidating ("storing") the query statistics ("generated statistic") for the

database queries to provide consolidated statistics ("system stat table") (column 12,

lines 43-44, and column 8, lines 8, 19-20).

generating one or more statistics collection tasks ("generates summary table

creation recommendations") based on the consolidated statistics ("system stat table")

(column 9, lines 25-30, column 12, lines 45-47).

Claim 2 is rejected for the reasons set forth hereinabove for claim 1 and

furthermore Osborn teaches the method for collecting statistics wherein the database

management system comprises one or more collection objects ("summary table")

(column 1, lines 29-30) and the consolidated statistics ("system stat table") are

associated with at least a subset of the collection objects ("summary tables") (the

summary table creation recommendation is generated basing on the system stat table.

Therefore, summary tables have the association to system stat table), and said

generating generates the one or more statistics collection tasks ("generates summary

table creation recommendations) for respective collection objects ("summary tables") of

the subset based on the consolidated statistics ("system stat table") (column 9, lines 25-

30, column 12, lines 45-47).

Claim 3 is rejected for the reasons set forth hereinabove for claim 1, 2 and

furthermore Osborn teaches the method for collecting statistics wherein said generating

generates one statistics collection task ("generates summary table creation

recommendation") for each collection object of the subset of the collection objects

(summary table) based on the consolidated statistics ("system stat table") (column 9,

lines 25-30, column 12, lines 45-47).

Claim 4 is rejected for the reasons set forth hereinabove for claim 1, 2 and

furthermore Osborn teaches the method for collecting statistics wherein the collection

objects are table spaces ("summary table") (column 1, lines 29-30).

Claim 5 is rejected for the reasons set forth hereinabove for claim 1 and

furthermore Osborn teaches the method for collecting statistics wherein the query

statistics ("generated query" in "system stat table") comprise table information for a

plurality of tables (figure 4, column 8, lines 28-29, 32-33, "system stat table including a

set of query statistic records" and "a record is created for each query", in block 102

"SQL Query", "EMP NAMES OF EMP DEPT 50" which includes employee table and

department table), the tables being associated with collection objects (column 12, lines

42-49, the tables in query statistic which is used to generate statistics collection tasks

for collection objects. Therefore, the tables are associated with collection objects),

wherein said generating groups the statistics collection tasks ("generates summary table creation recommendations") for the tables by collection object ("summary tables") (column 12, lines 45, 48).

Claim 6 is rejected for the reasons set forth hereinabove for claim 1, 5 and furthermore Osborn teaches the method for collecting statistics wherein each table of the plurality of tables is associated with a table score (figure 4, blocks 114) based on, at least in part, a number of references to the table by the queries of the workload (column 9, lines 65-66, "the frequency of which respective SQL queries are repeated"), further comprising:

determining a collection object score for each collection object based on, at least in part, the table scores for the associated tables of the collection object to provide collection object scores (figure 4, block 114, 116), wherein said generating generates the statistics collection tasks ("summary table creation recommendations") for the collection objects ("summary tables") in accordance with the collection object scores (column 9, lines 64-66, "evaluating both CPU time required ... and the frequency of which respective SQL queries are repeated").

Claim 7 is rejected for the reasons set forth hereinabove for claim 1, 5, 6 and furthermore Osborn teaches the method for collecting statistics wherein the table score (figure 4, blocks 116) is also based on, at least in part, a cost of the queries referencing the table (column 9, line 65, "CPU time").

Claim 8 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Osborn teaches the method for collecting statistics wherein the query

statistics ("generated query" in "system stat table") comprise column information (figure

4, column 8, lines 28-29, 32-33, "system stat table including a set of query statistic

records" and "a record is created for each query", in block 102 "SQL Query", "EMP

NAMES OF EMP DEPT 50" which includes employee name column and department

number column), and when a column specified in the column information is part of an

index, generating an index portion of the statistics collection task ("generates summary

table creation recommendation") to request database statistics for that column

("summary tables") (column 12, lines 45, 48).

Claim 15 is for the reason discussed related to claim 7. Since claim 7 is

substantially equivalent to claims 15.

Claim 16 is for the reason discussed related to claim 8. Since claim 8 is

substantially equivalent to claims 16.

Claims 9-14 are rejected on grounds corresponding to the reasons given above

for claims 1-6 and furthermore Osborn discloses the computer-readable media may be

involved in providing one or more sequence of one or more instructions to the

processor(s) for execution (column 5, lines 54-56).

Claims 17-20 are rejected on grounds corresponding to the reasons given above

for claims 1-4 and furthermore Osborn discloses processor and memory which stores

instructions (column 4, lines 55-57, 66).

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Osborn et al. (US 6,023,695) teaches summary table management in computer system.

Osborn et al. (US 6,026,391) teaches Systems and methods for estimating query response times in a computer system.

Chaudhuri et al. (US 6,529,901) teaches a method for determining a set of essential statistics.

Cochrane al. (US 6,763,352) teaches a method, apparatus, and article of manufacture for the incremental maintenance of summary table.

Cochrane al. (US 6,847,962) teaches a method, apparatus, and article of manufacture for optimizing database queries using a derived summary table.

Leung et al. (US 7,080,062) teaches a method, apparatus, and article of manufacture for optimizing database queries using automatic tables.

10.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu-Nguyet Le whose telephone number is 571-270-1093. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christian Chace can be reached on 571-272-4190. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TL

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09/29/2006

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